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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,019	09/17/2003	Robert P. Meagley	ITL.1015US (P16702)	7949
21906	7590	02/23/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			WALKE, AMANDA C	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/666,019	MEAGLEY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Amanda C Walke	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kodama et al (6,492,091).

Kodama et al disclose a positive photosensitive composition comprises: (A) a compound generating an acid upon irradiation with one of an actinic ray and radiation; (B) a resin containing a monocyclic or polycyclic alicyclic hydrocarbon structure and increasing the solubility to an alkali developer by the action of an acid; and (C) an onium salt of carboxylic acid. The photo acid generator for use in the present invention is a compound which generates an acid upon irradiation with an actinic ray or radiation. The compound which decomposes upon irradiation with an active ray or radiation to generate an acid for use in the present invention may be appropriately selected from photoinitiators for photo-cation polymerization, photoinitiators for photo-radical polymerization, photo-achromatizing agents for dyes, photo-discoloring agents, known compounds which generate an acid by light used in a microresist or the like (an ultraviolet ray or deep ultraviolet ray of from 400 to 200 nm, particularly preferably, a g-line, h-line, i-line or KrF excimer laser beam), an ArF excimer laser beam, an electron beam, an X ray, a molecular beam or an ion beam, and mixtures of these compounds. For example, onium salts

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such as diazonium salts, ammonium salts, phosphonium salts, iodonium salts, sulfonium salts, selenonium salts and arsonium salts, organic halogeno-compounds, organo-metals/organic halides, photo-acid generators having an o-nitrobenzyl type protective group, compounds generating a sulfonic acid upon photolysis, which are represented by iminosulfonates, disulfone compounds, diazoketosulfone compounds and diazodisulfone compounds are used. As taught in column 8, PAG4 is of a structure similar to that instantly claimed.  $R^{203}$ ,  $R^{204}$  and  $R^{205}$ , which may be the same or different, each represents a substituted or unsubstituted alkyl group or a substituted or unsubstituted aryl group, preferably an aryl group having from 6 to 14 carbon atoms, an alkyl group having from 1 to 8 carbon atoms, or a substituted derivative thereof. Preferred examples of the substituent include, for the aryl group, an alkoxy group having from 1 to 8 carbon atoms, an alkyl group having from 1 to 8 carbon atoms, a nitro group, a carboxy group, a hydroxy group and a halogen atom, and for the alkyl group, an alkoxy group having from 1 to 8 carbon atoms, a carboxy group and an alkoxycarbonyl group.  $Z^-$  represents a counter anion and examples thereof include  $BF_4^-$ ,  $AsF_6^-$ ,  $PF_6^-$ ,  $SbF_6^-$ ,  $SiF_6^{2-}$ ,  $ClO_4^-$ , an alkane sulfonic acid anion which may be substituted, a perfluoroalkane sulfonic acid anion, a benzene sulfonic acid anion which may be substituted, a naphthalene sulfonic acid anion, anthraquinone sulfonic acid anion and a camphol sulfonic acid anion, however, the present invention should not be construed as being limited thereto. Preferred examples of the anion include an alkane sulfonic acid anion, a perfluoroalkane sulfonic acid anion, an alkyl-substituted benzene sulfonic acid anion and pentafluorobenzene sulfonic acid anion.

Exemplified compounds PAG 4-9 and 4-10 meet the instant claim limitations, the instant claims are anticipated by the reference.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et al (6,492,091).

Kodama et al has been discussed above. It is noted that the reference teaches that R<sup>203</sup>, R<sup>204</sup> and R<sup>205</sup> of the photoacid generator cation may be the same or different, each represents a substituted or unsubstituted alkyl group or a substituted or unsubstituted aryl group, preferably an aryl group having from 6 to 14 carbon atoms, an alkyl group having from 1 to 8 carbon atoms, or a substituted derivative thereof. Preferred examples of the substituent include, for the aryl group, an alkoxy group having from 1 to 8 carbon atoms, an alkyl group having from 1 to 8 carbon atoms, a nitro group, a carboxy group, a hydroxy group and a halogen atom, and for the alkyl group, an alkoxy group having from 1 to 8 carbon atoms, a carboxy group and an alkoxycarbonyl group. Thus, given the teachings of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Kodama et al choosing for all three of R<sup>203</sup>, R<sup>204</sup> and R<sup>205</sup>, in the photoacid generator cation to be alkyl groups, with reasonable expectation of achieving a material having excellent pitch dependency and development margin.

5. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimori et al (6,692,884).

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Fujimori et al disclose a positive resist composition comprising a photoacid generator. One compound, II-22 meets the instant claim limitations as the phenyl groups of the cation have been replaced by alkyl groups.

Given the teachings of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Fujimori et al choosing to employ II-22 as the photoacid generator, with reasonable expectation of achieving a material having excellent in halftone exposure aptitude.

#### ***Response to Arguments***

6. Applicant's arguments filed 12/6/2004 have been fully considered but they are not persuasive.

Applicant has argued that the Kodama et al reference did not meet the instant claim limitations as the photoacid generators did not have multiple sigma bonded moieties. In light of the amendment and arguments, the examiner has clarified the rejection. As discussed above, the reference(s) do teach photoacid generator compounds having cation wherein the phenyl groups have been replaced by alkyl groups that are sigma bonded.

Therefore, the examiner has maintained her rejection.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sato (6,727,039) has been cited for its teachings of similar compounds.

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8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

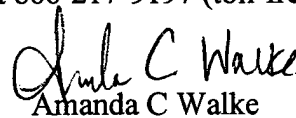
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Amanda C Walke

Examiner

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ACW

February 22, 2005